WSDOT

Design-Build Lessons Learned

Roger Millar, Secretary of Transportation

Safety

- Sign-in
- Who is CPR Qualified?
- AED
- Who will call 911?
- Evacuation
- Restrooms
- Breaks

Speakers

Philip Larson, Project Manager, Guy F. Atkinson Construction

Bob Dyer, Assistant State Construction Engineer, WSDOT

Purpose of Lessons Learned

- A systematic way to share statewide Lessons on past experiences;
- Share best practices and avoid repetition of past failures.

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WSDOT Lessons Learned Database

WSDOT 5

Who Else Uses Lessons Learned?

WSDOT 6

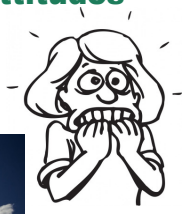
What Types of Lessons have been Learned?

- Request for Qualifications
- Request for Proposal
- Contract Administration
- Closeout

WSDOT 7

Culture Change in Roles, Responsibilities, & Attitudes

- **Design –Build is a change**
- **Change is Difficult**



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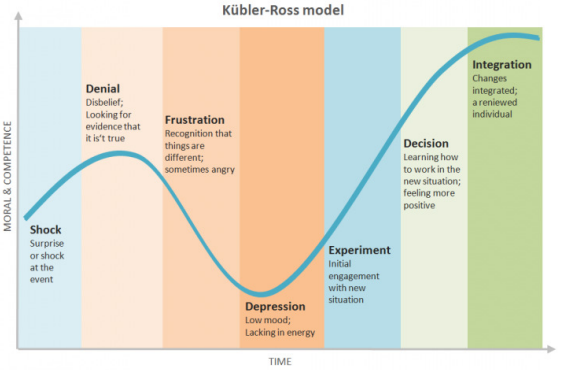
Culture Change in Roles, Responsibilities & Attitudes

Kübler-Ross model



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Culture Change in Roles, Responsibilities, & Attitudes

- **Design-Build requires the owner to respond mush faster than Bid-Build**
  - *"The Speed of Design-Build"*
  - WSDOT response time and decision making sometimes needs to be cut to mere hours

WSDOT 10

Culture Change in Roles, Responsibilities, & Attitudes

- **The Owner and Design-Builder must learn to see each other as partners, jointly striving for a successful project**
  - Some folks are better suited to this than others

WSDOT 11

The Transition to DB Can Be Challenging for Owners and Contractors

- **Bad**
- **Good**

WSDOT 12

Culture Change in Roles, Responsibilities, & Attitudes

- QA's role should be viewed as documenting proof to the world of what the quality is

WSDOT 13

"Baselining"

- For baseline purposes the Proposers shall assume the following:
  - Three heating-oil USTs will be encountered
  - Each tank will be 500 gallons in volume.
  - Twenty-five cubic yards (cy) of soil contaminated with oil- and/or diesel-range petroleum hydrocarbons at levels exceeding the MTCA Method A cleanup level will require excavation and disposal during removal of each UST.

Example 1

Example 2

Boulder Size	Number of Boulders per 1,000 cy of In Situ Materials[1, 2, 3]		
	Qpgm, Qpgd, Qpgt, Qvd, Qvt, Qvat, Qvro	Qpgl, Qpgl disturbed, Qpgo, Qvgl, Qpnf, Qva, Qvri, Ha, Hls, Hc	Qpnl, Qvrl, Hl, Hf, Hp[si], Hp[fi]
1 to 3 feet	10	1	0.1
3 to 5 feet	1	0.1	0.01
> 5 feet	0.1	0.01	0.001

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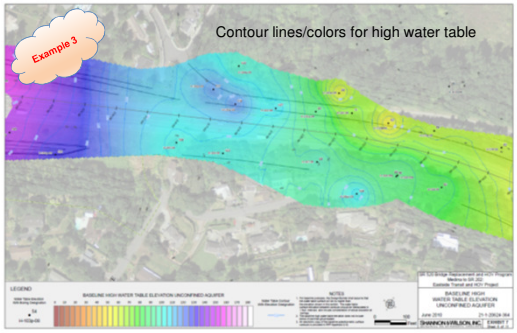
"Baselining"

Example 3

Contour lines/colors for high water table



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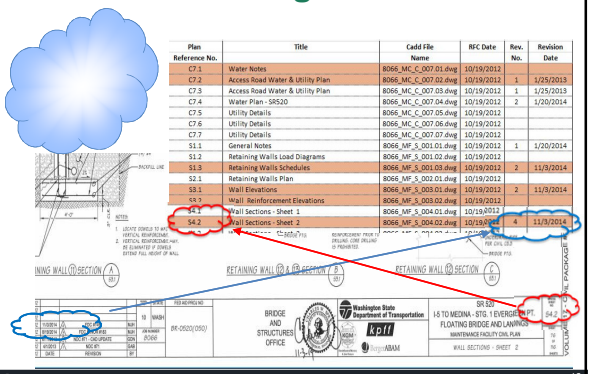
Document Management



Plan Reference No.	Title	Cadd File Name	RFC Date	Rev. No.	Revision Date
C7.1	Water Notes	8066_MC_C_007.01.dwg	10/19/2012		
C7.2	Access Road Water & Utility Plan	8066_MC_C_007.02.dwg	10/19/2012	1	1/25/2013
C7.3	Access Road Water & Utility Plan	8066_MC_C_007.03.dwg	10/19/2012	1	1/25/2013
C7.4	Water Plan - SR520	8066_MC_C_007.04.dwg	10/19/2012	2	1/20/2014
C7.5	Utility Details	8066_MC_C_007.05.dwg	10/19/2012		
C7.6	Utility Details	8066_MC_C_007.06.dwg	10/19/2012		
C7.7	Utility Details	8066_MC_C_007.07.dwg	10/19/2012		
S1.1	General Notes	8066_MF_S_001.01.dwg	10/19/2012	1	1/20/2014
S1.2	Retaining Walls Load Diagrams	8066_MF_S_001.02.dwg	10/19/2012		
S1.3	Retaining Walls Schedules	8066_MF_S_001.03.dwg	10/19/2012	2	11/3/2014
S2.1	Retaining Walls Plan	8066_MF_S_002.01.dwg	10/19/2012		
S3.1	Wall Elevations	8066_MF_S_003.01.dwg	10/19/2012	2	11/3/2014
S3.2	Wall Reinforcement Elevations	8066_MF_S_003.02.dwg	10/19/2012		
S4.1	Wall Sections - Sheet 1	8066_MF_S_004.01.dwg	10/19/2012		
S4.2	Wall Sections - Sheet 2	8066_MF_S_004.02.dwg	10/19/2012	4	11/3/2014

RFQ and RFP Scoring

- **"Spend" Technical Points Prudently**
  - Technical score can result in paying extra
  - Ask: Should we pay extra for this?
  - Legislature encourages best value, but wants low price too.

$$\text{SCORE} = \frac{T \times \$10{,}000{,}000}{\$P}$$

Score = The adjusted Proposal Rating (Best Value Rating)
$P = The Proposal Price from the Price Proposal Form B
T = Technical Evaluation Score (A number between 0 and 1000)

Score	Technical Evaluation score = T	Technical Evaluation score factor	Proposal Price $P
109.7778	741	10,000,000	67,500,000.00
122.4441	820	10,000,000	66,969,343.60
121.1223	785	10,000,000	64,810,510.00

Example of best value ≠ low price

Lessons Learned on ATC's

- **Meeting of the minds on what has changed**

  Quote from the ITP:

  - *"Proposed RFP modifications: References to* ***all requirements of the RFP that are modified*** *by the proposed ATC with an explanation of the nature of the modification from said requirements and a request for approval of such modifications.* ***Use addendum or tracked changes format."***

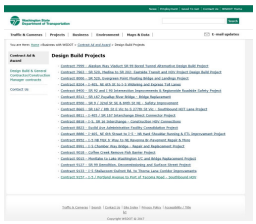
Contract Administration

RFQ Advertisement

- Be sure project goals are relevant. Clearly assign risk to the best party to handle the risk.
- Double check the engineers estimate after the scope settles.
- Shortlist to 3 teams is a best practice.
- Offer teams that have successfully worked together on past projects.

Early Advertisement

- Post the Pre-Advertisement notice as early as possible.
- Take advantage of forums that provide project information to industry.
- Be available to meet with potential Design-Build teams.



RFP Advertisement

- 1:1 Meetings – make sure you anticipate the need for a 1.5 hr. meeting for each proposer team each week. Ensure you have a team including SME that can typically respond to questions within a week.
- Consider scheduling all three 1:1 meetings the same day.
- Resist the temptation to say "No" to ATC Concepts which are different than the Conceptual Plan.
- Do not include RFP development consultant designers in 1:1 meetings.

Partnering/Escalation Ladder

- Formal and Informal Partnering
- Aligning of teams and goals.
- Escalation Ladder

Formal Partnering

- Has a facilitator.
- Decision makers need to attend.
- Need to be willing to partner.
- Delegation is key.

Informal Partnering

- Can happen at any time.
- Keeps communication open.
- Aligns goals for all parties.
- Fun!!

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Aligning of teams and goals.

- Align everyone to the goals of both WSDOT and the Design-Builder.
- Take time to understand each other.
- Celebrate successes together.

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Escalation Ladder

- Set formal escalation ladder and timelines early.
- Don't let little small issues slow down the process.
- Use your escalation ladder to help resolve issues early.
- It is OK to ask for help.

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Escalation Ladder continued

- Timely resolution of disagreements between Design-Builder and WSDOT is essential.
- Develop and execute Change Orders in a timely manner.
- Communicate with your counterpart on the DB side.
- Understand who is the EOR. Their ideas are OK even if they are not your ideas.

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Startup/Early Submittals

- Early submittals are critical!
- QMP
- Think about closeout early!

WSDOT 29

Early submittals are critical!

- Be prepared for early submittals.
- Time is of the essence.
- Design-Builder needs to be prepared.
- WSDOT needs to beat review timelines.

WSDOT 30

QMP

- Needs to be ready at NTP.
- Can be submitted piece meal.
- Design comes first.

WSDOT 31

Think about closeout early!

- Think about closeout with the first submittal.
- Closeout taskforce at beginning of project.
- Clearly communicate expectations and commitments.
- Understand the Design-Builder's software.

WSDOT 32

Closeout

- Establish the Document Control Plan and Document Control System very early on in the Project
- Setup a Document Control System that aligns closely with the Construction Manual and encourage the DB to do so as well
- Start early while the DB team and document control manager is onsite. Once they've moved out, it's hard to get missing documents.
- Informal Audits throughout the life of the Project

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Resources

- WSDOT Design-Build Web Page
  http://www.wsdot.wa.gov/Projects/delivery/designbuild/Default.htm
- Joint Transportation Committee of Washington State Legislature Design-Build Study
  http://leg.wa.gov/JTC/Pages/Design-Build-Study.aspx
- WSDOT Design-Build Templates
- http://sharedot/eng/cn/hqconstr/dpb/DB%20Templates/Forms/AllItems.aspx
- Design-Build Institute of America Best Practices
  https://www.dbia.org/resource-center/Pages/Best-Practices.aspx
- Design-Build Institute of America Transportation Conference
  www.dbia.org

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WSDOT 35